

LOUISIANA PUBLIC SERVICE COMMISSION

GENERAL ORDER

At a session of the Louisiana Public Service Commission held at its offices in Baton Rouge, Louisiana, on June 9, 1953, certain questions arose as to the degree of control which this Commission should exercise over sale, leases, mergers, consolidations, and changes of control of public utilities subject to its jurisdiction.

The Commission having been vested by the Constitution of 1921 with all necessary power and authority, among other things, to supervise, govern, regulate and control all street railroads, telephone, telegraph, gas, electric light and power, water works, and common carrier pipe lines, hereby recognizes the present ownership of every such public utility now coming under its jurisdiction in accordance with annual reports on file with this Commission for the year ended December 31, 1952, or for such fiscal year ended in 1952 as may be applicable.

The attention of the Commission has been called to the fact that utility systems have, in the past, been sold to otherwise effected change of ownership or control without authority and without the knowledge of the Commission or any member of its staff until after such sale or change of ownership has been consummated, and it is hereby:

ORDERED, that from the date of this order, the sale, lease, merger, consolidation, or other change in the ownership of the assets of public utilities or any controlling part thereof subject to the jurisdiction of this Commission is hereby prohibited without first having obtained an order of authority from the Commission for such change in ownership.

BY ORDER OF THE COMMISSION
BATON ROUGE, LOUISIANA
June 16, 1953

/s/ HARVEY BROYLES
Chairman

/s/ WADE OF. MARTIN
Chairman

/s/ NAT B. KNOGHT
Commissioner

/s/ C. W. COLEMAN
Secretary

Wireless potpourri

[Editor's note: Listed below are miscellaneous wireless statistics from numerous industry sources. Pick and choose from those of interest.]

Paging:

- Digital pagers represent 77% of the pager market and tone-only pagers represent 11%.

- Alphanumeric pagers are growing by 27% annually compared with a 15% growth rate for digital pagers. Currently, 7% of the 14 million pagers in the U.S. are alphanumeric.

- Fourteen million pagers were in use at the end of 1992, up 17.6% from 1991.

- Non-business consumers account for only 15% of the pagers in use in the U.S., but the rate of growth for this market segment is 25%, compared with 20% overall.

- Motorola has 85% of the pager market.

- Pagers, originally used only on a local basis, can now provide coverage across the U.S.

- Pagers can be used in conjunction with portable computers and receive up to 21 pages of information.

- A voice mail capability, whereby a caller leaves a voice message for a subscriber, is available for all types of pagers.

- Sports scores, stock quotes and headline news are now available via pagers.

- Teenagers appreciate pagers for the freedom and privacy they provide. They especially like colored pagers.

- Paging generates \$2 billion in annual revenue, with growth attributed to innovations in pager size and efficiency.

- Some 10% to 15% of all pagers were sold through retail channels in 1992. By 1995, approximately 50% of products will be sold through retail distribution centers.

- By 1995, 15 million paging customers will generate \$4.5 billion in revenues.

Cellular, PCS:

- Cellular telephones gained new users at a record rate of 46% in 1992.

- According to an internal FCC study, the introduction of a third cellular carrier into the marketplace could reduce service rates by as much as 25%.

- The \$9 billion cellular network infrastructure has not been popular for data services, with data representing less than 2% of all cellular traffic.

- When cellular subscribers exceeded 10 million in 1992, they surpassed original projections for the year 2000.

- The 1992 cellular growth rate equates to more than 220,000 new subscribers per month.

- Handheld portable telephones now exceed 65% of all cellular telephone units shipped.

- The typical cellular user is 41 years old, and a college graduate with an annual income of \$72,000.

- During the first half of 1992, "roaming" revenues accounted for more than 12% of total industry revenues.

- The Federal Communications Commission's 10-15 year delay in licensing cellular telecommunications cost the U.S. economy more than \$86 billion. The losses represented about

2% of the GNP in 1983 when cellular service finally began.

- The cellular phone rental business has grown quickly during the last five years and was worth an estimated \$500 million in 1992. Due to low start-up costs and high profit margins, about 50 medium-sized companies and approximately 350 entrepreneurs entered this market.

- Established cellular operators have built an infrastructure representing an estimated investment of \$15 billion.

- The cost of acquiring casual users is higher than business users because they are more price sensitive and regard cellular as a luxury, not a necessity.

- Estimates are that 35,000 users would be victims of toll fraud in 1993. In 1992, users lost approximately \$2.5 billion in charges from unauthorized calls made through their equipment.

- Analysts predict a \$600 billion market for wireless products and services by the year 2010, with PCS representing an important area of potential development.

- At market saturation, approximately 65% of U.S. households will use PCS services.

- Rapidly growing subscriptions and the increasing popularity of pocket-sized telephones could result in 35 million subscribers to cellular service by the year 2000.

- By 1997, up to 20% of new cellular phone purchases will include the need for some form of data transmission.

- Estimates are that there will be 40 million PCS subscribers by 2002.

- The first commercial cellular service in the U.S. began in Chicago on Oct. 13, 1983. The first call was placed on an OKI phone by the president of Ameritech to Alexander Graham Bell's grandson. ■

Louisiana

TELECOMMUNICATIONS TASK FORCE

SERVICE PROVIDERS COMMITTEE FINAL REPORT

SUBMITTED TO THE
LOUISIANA TELECOMMUNICATIONS TASK FORCE

BY

ROBERT W. CLINE LARRY G. HENNING

JUNE 1, 1994

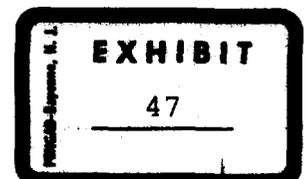


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EXECUTIVE SUMMARY

"Where there is no vision, the people perish"
King Solomon

VISION 2000

The general public is relatively unexposed to various telecommunications techniques and the benefits which can be derived from the application of modern technology to everyday business and personal life. As the public becomes more aware and embraces more technological sophistication, their demands will become more complex and frequent.

The need to communicate extensively, rapidly and accurately without regard for time, space, location or distance creates demand for telecommunications equipment, appliances, networks and services. This increasing demand will require planning, partnering, innovation and implementation from both public and private sectors.

When market forces (competition) begin to replace regulation, the continued provision of the availability of services to all people (universal service) is both necessary and obligatory.

Flexible regulation and legislation are going to be required to establish and maintain both uniform quality of service levels and uniform types of service offered by telecommunications providers within the umbrella of the universal service social contract concept. Outside the social contract requirements of universal service, only entry/exit notification and quality of service level regulation should apply to competitive offerings of equipment and services by telecommunications providers. In this way, market forces should ensure competitive prices on competitive services, while allowing for universal service obligations to be met by the telecommunications common carrier of last resort using financing mechanisms supported on an equal basis by all providers.

It is anticipated that as the telecommunications environment becomes more competitive, the convergence of technologies will lead to other providers seeking to provide services traditionally offered by the carrier of last resort. This in turn will apply increasing pressure to the support given the carrier of last resort. Thus, transitional mechanisms will need to be developed to allow the public to simultaneously receive the emerging benefits of competition without dramatically affecting the universal service obligation. Inappropriate entry and exiting barriers caused by legal and regulatory rules will need to be eliminated or modified so that all players are impacted similarly to keep from creating a telecommunications infrastructure of "have's" and "have not's".

As universal service public policy goals continue to provide for universal interactive information access to its citizens, the definition of universal service and appropriate transition mechanisms become of primary importance. The definition of universal service by the Louisiana

Public Service Commission should begin with and include the existing services currently enjoyed by the public today. Furthermore, the policy of the State of Louisiana which requires that networks and provisioning facilities be privately owned rather than state owned should continue. Continuation of this policy would allow the telecommunications information infrastructure to develop more rapidly.

FOCUS

The multifaceted focus of the Service Providers Committee centered around the determination of the present telecommunications infrastructure in Louisiana; the present plans for infrastructure expansion; historical and planned capital expenditures; assessment of the present infrastructure and quality of service offered; and the emerging trends which would determine the type and impact of the infrastructure over the next five years to satisfy the needs of an ever growing and increasingly sophisticated public. These questions were answered by surveying all of the potential telecommunications service providers in the state. While not all companies surveyed provide telecommunications services today, without exception, all the major infrastructure providers are making plans to provide digital broadband switched services within the next five years if given access to the local market served by the local exchange carriers today. The survey of the local exchange carriers indicated that the current level of local service offered ubiquitously is limited to 150 Kbs. Where market demand has materialized, broadband infrastructure and services have been deployed and provided. It is predicted that, under current conditions, ubiquitous availability of advanced services will not be accomplished through market demand until about 2015. However, dramatic acceleration of this is possible through a regulatory policy allowing providers to more rapidly recover their investments. All of the local exchange carriers have plans to offer digital local service within the next five years if allowed to do so by a State Telecommunications Plan adopted by the Louisiana Public Service Commission.

Four steps were identified as necessary to bring about the societal and economic benefits resulting from statewide deployment of broadband and advanced services to the citizens of Louisiana. These steps are:

1. conduct a comprehensive and detailed study to fully evaluate how the broadband network infrastructure components of distribution, interoffice, and ATM/packet switching could be deployed in a manner that would ensure ubiquitous deployment of interactive voice, data, imaging, video, multimedia, and information services to the various publics throughout the state;
2. develop an inventory (database) of current services/infrastructure (since some advanced services and broadband infrastructure currently exist);
3. complete an extensive needs analysis of the public user base;
4. develop a vision of how the infrastructure would be utilized to benefit Louisiana, and;

5. develop a tracking mechanism to track the advancement of the infrastructure over time. This would help in assessing the deployment of the infrastructure, market demand, and geographic coverage. The tracking mechanism must be flexible enough to track such services regardless of the provider.

The Service Providers Committee has completed Step 2. of the above. The database is approximately 98% complete and correct with all of the known existing infrastructure and services having been recorded therein. The tracking mechanism called for in Step 5. was established in cooperation with the Service Providers Committee by the USL Center for Telecommunications Studies. Step 3. above was identified as being part of the charge to the Service Users Committee of the Task Force. Steps 1. and 4. were reserved by the Task Force for its own determination.

Individual subcommittee reports have been included without modification or editing to ensure that the needs and viewpoints of all participants were properly represented. Issues specific to a particular subcommittee were not included herein but issues that were shared by all were included and discussed in the body of this report and recommendations.

SUMMARY OF RECOMMENDATIONS

Each of the following generic recommendations are more specifically explained and discussed in the **RECOMMENDATIONS** section of this report.

1. Assure reliable and ubiquitous telecommunications access to all people upon demand at a universally affordable and equitable rate.
2. Focus on statewide economic development activities and social needs in urban and rural areas with special emphasis on rural areas.
3. Foster and ensure the integration of modern technologies in state and local government to promote efficiencies.
4. Ensure the state's active participation in the National Information Infrastructure Initiative.
5. Assist in removing existing barriers to infrastructure construction, deployment, and implementation which limit development.
6. Foster open network architecture of backbone support networks enabling non-discriminatory access.
7. Utilize governmental and regulatory structure to manage the transition to a competitive marketplace in the public interest.

8. Foster partnerships and alliances among state and local governments, educational institutions and private industry for the rapid deployment of information and telecommunications infrastructure.

TASK FORCE DEVELOPMENTAL HISTORY

BACKGROUND

Several years ago, the membership of the Louisiana Telephone Association (LTA) decided to address the population shift from the rural areas to the urban areas of the state. This migration was confirmed by the 1990 census. Determining that a major cause of the shift was in fact that the social services and economic opportunities were not as available in the rural areas as they were in urbanized areas of the state, the member companies began working toward the creation of a state-wide telecommunications infrastructure plan. The disadvantages of rural living were identified as being found in the two factors of time and distance. It was determined that both factors could be minimized through the delivery of the desired services over a telecommunications "superhighway" in much the same way the rural areas benefited from the "farm to city" and interstate highway transportation systems in the past. Except in this case, the services would be transported to the people instead of the people being transported to the services. It was believed that a state-wide plan would prevent the duplication of services and provide economic benefit.

RURAL/URBAN NEEDS

While basic, affordable, telephone service was available to anyone who desired service because of a federal and state policy known as "universal service", a wider bandwidth was needed to facilitate the services needed by the people; such services as a high bandwidth capability which would allow for higher data transmission rates, interactive video and voice transmission simultaneously. It was determined that analog technologies would need continued support while digital capabilities and SS7 interconnection access expanded. Other needs included fair regulatory treatment as rural areas began responding to introduction of economic development and continued support of urban/rural and other public policy support mechanisms in effect. It was expected that technology, cost, and customer demand would be the determining factors as to when certain services would come to specific markets. However, included in the Louisiana Telephone Association vision of the state-wide plan was the expectation that rural citizens should receive similar services at comparable rates as those in urban areas or areas of the largest LEC's.

SCOPE OF THE TASK FORCE

Telecommunications services and infrastructure are found to fall within two jurisdictions in Louisiana; the Office of Telecommunications Management (OTM) and the Louisiana Public Service Commission (LPSC). Any state-wide plan not considering common carriers and state agencies would fall extremely short in meeting the needs experienced by the rural communities in the areas of telemedicine and telelearning. With the major users (medicine and education) being in the public sector and out of the jurisdiction of the LPSC and the major providers being in the private sector and out of the jurisdiction of the Governor, both the Governor and the Chairman of the LPSC were approached to jointly lead and take part in the planning process thereby facilitating the effectiveness of a state-wide plan. Both responded. The Louisiana Public Service

Commission, under the leadership of Chairman Kathleen Babineaux Blanco, adopted a general order calling for a formulation of a state plan to guide the investment program of the "super information highway" needed by Louisiana in order to compete in tomorrow's information age.

Executive Order Number EWE 93 - 38, signed by Governor Edwin W. Edwards, created the Louisiana Telecommunication Task Force to develop a comprehensive telecommunication plan for the state by July 1, 1994. The cochairmen of the Task force are to be the Chairman of the LPSC and the Executive Director of the Governor's Office of Rural Development. At its first combined meeting on December 8, 1993 the Task Force was divided into three main committees with each main committee having a number of subcommittees, each charged with handling a specific area. Appendix 1 shows the committee structure. The makeup of the Service Providers Committee is shown in Appendix 2.

LOUISIANA'S CURRENT TELECOMMUNICATIONS INFRASTRUCTURE

BACKGROUND

A major cornerstone of U.S. telecommunications policy has historically been the pursuit of the goal of "universal service." The Communications Act of 1934 defined the concept of universal service as making "available, so far as possible, to all the people of the United States a rapid, efficient, nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges...". This concept of universal service created "carrier of last resort responsibilities". These included continual provisioning of the local and long distance infrastructure required by technological advances, evolving customer demand and customer perception of the availability of services in urban markets to provide a ubiquitous nationwide advanced telecommunications network which is offered to all at reasonable rates. Continually building the infrastructure to meet customer service requests has caused the definition of universal service to evolve into a meaning that covers the levels of services being provided today to the Louisiana public.

The related concepts of "universal service" and "carrier of last resort" have been both supported and required at the state level as well as the federal level by regulation and legislation causing a "social contract" to be formed between regulators, the telecommunications providers, and the public. A major thesis of this implied "social contract" requires that the certificated monopoly provider of service be the "carrier of last resort" to all customers requesting service in the certificated exchange area, and to do so at reasonable rates. Traditionally, rates of local service access have been kept low to assist in achieving the goal of universal service through implicit and explicit public policy support mechanisms that have been put in place over time.

Here in Louisiana a package of inter-dependent policy tools make up the public policy support mechanisms. These tools include:

- statewide geographic rate averaging for toll and local services holding rates for some services below market levels,
- urban to rural support,
- business to residential support,
- "carrier of last resort" obligations with exclusive franchises and
- Lifeline Assistance Programs.

Through implementation of these "social contract" public policy tools, an estimated 94% of Louisiana homes have received services from "carrier of last resort" telecommunications providers; 8,217 families were protected from falling into the "have-not" category by being enabled to stay on the network through Lifeline Assistance Programs; and has allowed Louisiana rural telephone customers to receive an average of \$51.22 per month in

reduced charges for local telephone service and long distance calls. Benefits, all of which, directly resulting from this "social contract partnership", according to *Keeping Rural America Connected: Costs and Rates in the Competitive Era*, a study by the Organization for the Protection and Advancement of Small Telephone Companies (OPASTCO) and a report by the National Exchange Carriers Association (NECA).

FACILITIES BASED TELECOMMUNICATIONS PROVIDERS

LOCAL EXCHANGE CARRIERS

Local exchange service in Louisiana today, is provided by 20 local exchange carriers (LEC's) with "carrier of last resort" (common carrier) obligations. They provide local and toll (long distance) services, using digital or stored program control switches, through 349 exchanges in 4 Local Access and Transport Areas (LATA's) utilizing 2 area codes (NPA's) and 514 exchange number prefixes (NXX's). While the Integrated Services Digital Network (ISDN) is available in all of the major markets and rural markets upon demand, it is not ubiquitously available throughout the state today. Full implementation is planned to occur by the year 2000. Louisiana residents today enjoy basic universal service which includes:

- Ubiquitous single party Touch Tone availability
- Access to local exchange service
- Access to interexchange carriers
- Ability to send and receive local and long distance calls
- Interlata equal access
- 911 service where established by LA. R.S. 45:791 et. seq.
- A local calling area sufficiently large to encompass the users' community of interest
- Access to digital data transmission capabilities to support up to 150 Kbps as well as voice
- SS7 interconnection to the ubiquitous public broadband switched network
- Access to advanced services provided in digital or stored program control central offices
- Access to information and NXX services as available
- Local directory assistance
- Directory listing in residential and/or business directory
- Local Operator services
- Customer support service including billing
- Installation and set up of universal service

INTEREXCHANGE CARRIERS

Interexchange services, identified in the data survey conducted by the Interexchange Carriers Subcommittee of the Service Providers Committee, are provided by four interexchange carriers (IXC's) utilizing four digital switches and nine point of presence locations, in addition to a host of smaller companies reselling toll services. Only one IXC has "carrier of last resort" (common carrier) obligations. Ubiquitous interexchange services currently available today include:

- Message Toll Service
- Wide Area Telephone Service

- Point to Point Digital Services
- Switched Digital Services
- Operator Services
- Software Defined Network
- Frame Relay Technology
- 700-NXX-XXXX
- 800 Service
- 900 Service
- SS7 Access

Other network services such as Asynchronous Transfer Mode (ATM) are available on a demand basis at selected areas throughout the state.

WIRELESS TELECOMMUNICATIONS PROVIDERS

PAGING, CELLULAR TELEPHONE, 2-WAY RADIO, SATELLITE, DATA, SPECIALIZED MOBILE RADIO, ENHANCED SPECIALIZED MOBILE RADIO, AND WIRELESS BROADCAST CARRIERS

Wireless is a broad range of individualized telecommunications services that enable people or devices to communicate regardless of geographic location. The current array of wireless services available in Louisiana includes, but is not limited to, paging, cellular telephone, 2-way radio, satellite, microwave dedicated data, Specialized Mobile Radio/Enhanced Specialized Mobile Radio (SMR/ESMR) and broadcast. Each service was developed with different capital sources, over different time periods, met unique customer needs and exists under different regulatory environments. Louisiana benefited directly through the creation of thousands of new jobs and hundreds of millions of dollars in operating and capital investment. The **wireless** carriers serve 63 parishes with 17 wireline local offices and 13 non-wireline offices providing access to cellular and paging services to over 90% of Louisiana's residents.

Paging deployment is ubiquitous throughout the state. The current product lines available to Louisiana's citizens include tone, voice, and alphanumeric display.

Current **Specialized Mobile Radio Systems** provide coverage similar to that of paging. There are currently no **Enhanced Specialized Mobile Radio Systems** in Louisiana.

Cellular Telephone is deployed throughout the state with only minor pockets of uncovered territory providing voice and data services. The operating **wireless carriers** for each parish are identified in the Wireless Committee report.

CABLE TELEVISION PROVIDERS

Louisiana's **cable television** industry presently serves an estimated 890,000 subscribers in approximately 212 cable systems. Cable systems, all of whom distribute video signals via coaxial cable, pass about 85% of all homes in Louisiana. Almost 60% of all households in Louisiana presently subscribe to cable television services.

Cable television systems are permitted to operate under non-exclusive franchises granted by local franchising authorities, usually a municipal

council or board, or parish police jury. The franchise area with the largest number of subscribers in Louisiana is Jefferson Parish where Cox Cable serves 130,000 customers. The franchise area with the smallest number of subscribers is Fellmore where TCI serves 6 customers. The average system serves 4,188 subscribers.

Cable television was originally conceived to import distant network signals to rural areas. Today, virtually all cable systems also carry the signals of broadcast stations located within or close to the systems' service area. In addition to broadcast retransmission, systems offer a variety of satellite distributed "basic" programming services such as ESPN, CNN, USA Network, TBS, TNT, Discovery, The Learning Channel and MTV. Most systems offer at least some "Pay TV" services including HBO, Showtime, Cinemax, The Movie Channel, Encore and Starz. Some systems offer movies and special events on a "pay-per-view" or per program charge basis.

Cable systems offer varying combinations of "basic" program channels, "expanded basic" channels, pay television channels and pay-per-view services. The combination of services will vary from community to community, and is often an outgrowth of local interest in specific services or franchise requirements. The average cable system provides 36 channels to which it assigns the services most appropriate for the community served.

The state's cable industry employs approximately 1,775 office and field personnel who earn \$50 million in salaries, wages and benefits. Systems pay about \$17.3 million annually in franchise fees to local franchising authorities.

Louisiana cable systems utilize an estimated 18,700 miles of coaxial trunk and feeder cable, and 400 miles of fiber optic cable to distribute their services to subscribers. Traditional system design utilizes "tree and branch" architecture which relies on a series or "cascade" of locally powered amplifiers to transmit an RF signal over coaxial cable from the systems' signal receiving and processing site (headend) to the subscriber's home. This design, while generally adequate in small and medium size systems, has proved less reliable in larger systems where long amplifier cascades were required to reach substantial distances within a franchise area. Larger systems experienced varying reliability in the provision of local commercial power to amplifiers along the cascade "boosting" or amplifying the signal.

Within the past five years, some operators have begun to rebuild their plants with fiber optic wire in a "star" architecture which now proves to be as economical as coaxial, but which results in much higher quality and improved reliability. When combined with the deployment of advanced signal compression techniques, these fiber optic rebuilds will provide cable system operators the opportunity to increase channel capacity to as many as 500 channels.

There are no cable systems providing telecommunications services in the state today which connect to the public switched telephone network.

VALUE ADDED/SPECIALIZED COMMON CARRIERS

The research methodology used for this report identified four categories of Value Added/Specialized Common Carriers. After some refinement of the research data, the following key categories emerged:

- **Information superhighway infrastructure providers**
- **Hardware & software providers**
- **Entertainment providers**
- **On-Line Data Providers**

Many natural segments that can serve as early adopters of the information superhighway were identified. These included segments such as: on-line data/news retrieval, students, home shoppers, computer users, electronic game players and energy users looking to save on their bills.

The Louisiana Public Service Commission (LPSC) has not allowed competition with local exchange carriers in providing connections to the public switched network. Value Added/Specialized Common Carriers cannot enter the local telecommunications market as information superhighway infrastructure providers because issues such as universal service, form and nature of regulation, competitive framework, handicapped access, illiteracy, stranded investment and standards for hardware and/or software are still being addressed by the LPSC. The other three categories mentioned above have access to the general public today through various forms of transmission media and markets because they do not compete with carrier of last resort obligations.

OFFICE OF TELECOMMUNICATIONS MANAGEMENT

The mission of the Office of Telecommunications Management is to manage, coordinate, and provide high quality, cost effective, value-added telecommunications solutions affecting the management and operation of the executive branch of state government that satisfy users' needs at competitive rates in accordance with the Office of Telecommunications Management's enabling legislation.

The Office of Telecommunications Management does this by providing quality service through contractual arrangements which use the state's volume purchasing power, provide stable and competitive rates, and provide budget predictability to state agencies.

Act 153 of the 1982 Regular Session (LA R.S. 39:140-143) statutorily established the Office of Telecommunications Management within the Division of Administration. The act established the duties of the office as follows:

1. To establish and coordinate all telecommunications systems and services affecting the management and operation of the executive branch of state government;
2. To act as sole centralized customer for telecommunications systems;

3. To act as billing agent charging respective user agencies for their proportionate operating cost of telecommunications systems and services and for operating the office;
4. To develop coordinated telecommunications systems and services for all state user agencies;
5. To review, coordinate, approve or disapprove all requests by state agencies to procure telecommunications systems;
6. To establish and define specifications to assure compatibility of telecommunications systems and services;
7. To provide continuous analysis and inventory of telecommunications systems and services in state government;
8. To promote, coordinate, or assist in the design and engineering of emergency telecommunications systems;
9. To provide consultation to user agencies with respect to telecommunications management and planning;
10. To develop policies, procedures and long-range plans for the acquisition and use of telecommunications systems.

Lines of service provided by the Office of Telecommunications Management are as follows:

- Dial Tone Connects, Moves, and Changes.
- Dial Tone Disconnect.
- Dial Tone: Business.
- Dial Tone: Trunking.
- Dial Tone: Standard Classes.
- LINC (Louisiana Intercity Network for Communications).
- Station Equipment Connect.
- Station Equipment Move.
- Station Equipment Disconnect.
- Equipment Rental.
- Equipment Lease-Vendor Owned.
- Equipment Maintenance/Embedded Base.
- Equipment Maintenance/EKS & PBX.
- Circuits.
- 800 Service.
- Long Distance (DDD).
- Directory Assistance.
- Directory Listings.
- Special Support Services.
- Pay Telephones.
- Pay Telephone Usage Commission.
- Radio Paging.
- Calling Card.
- Audio Teleconferencing Service.
- LaNet.
- Voice Messaging.

- Telephone Access to Legislative Services (TALS)

Networks and services established by the Office of Telecommunications Management include the following:

LaNet - A high-quality, high-speed wide area data communications network that supports multiple communications protocols with location independence with access to statewide services such as E-mail, file transfer, file sharing, statewide databases, financial systems, remote computing resources, INTERNET, and SURANET. LaNet currently supports routing of TCP\IP, DECNET, IPX, and source route bridging SNA traffic.

LINC network - Louisiana Intercity Network for Communications
A state managed long distance system of leased telephone facilities. This system provides low cost service for calls made to any telephone in the Continental United States. Each state agency is billed monthly for its actual usage.

The Office of Telecommunications Management (OTM) currently manages 78 PBX's and numerous key systems in state agencies. Current policy is to lease facilities from the private sector, aggregate government's needs, and price services state agencies at a level to cover all costs incurred by OTM. In most cases, state agency costs incurred by leasing directly from the private sector are substantially higher than OTM. Only in exceptional cases does the purchase of facilities for state ownership occur.

TRANSITIONAL ISSUES

RURAL PENALTY

Louisiana is at a cross roads in telecommunications; seeking to expand competitive advanced telecommunications and information choices for as many consumers as possible, while at the same time seeking to maintain a historic commitment and support to provide services to all consumers.

Commitment to universal service consists of two key components: availability and affordability. Basic universal service is essential for network access, necessary for social and economic integration, has few competitive alternatives and is considered common carriage under traditional regulation.

As common carriers, telephone companies are obligated to make their service offerings available to any customer willing to pay the tariff rates; they are not allowed to discriminate. Common carriage has two important implications in an era of advanced telecommunications. On the one hand, owners and operators of the public switched network should continue to be obliged to serve all customers. On the other hand, competitive access network operators should also be obligated to make the platform available to any service provider. If society is to assure that the benefits of the Information Age are available to all citizens as customers and as service providers, then it is important to have a public network with a common carrier obligation.

Universal service, being a public policy goal which is both conflicting and held in tension with the public policy goal of competition, is often analogously undermined in rural areas. Louisiana is in danger of losing the full benefit of technology unless public policy goals provide for universal interactive information access to its citizens as a basic requirement. The qualities of reasonable cost and standard equal access cannot be achieved in low population density areas through competition alone. Fifty five parishes in Louisiana have been designated rural parishes and as such, receive cost support from the urban parishes. These high cost rural areas have natural monopolistic characteristics which do not lend themselves readily to marketplace experimentation. In contrast, urban populations have a greater demand for market experimentation. With the price of service in an urban area inflated above cost of service in order to lend price support to rural populations, there is a greater margin between the cost of providing the service and the selling price of the service in urban areas.

Rural support mechanisms should survive if continued reliance is placed upon rural infrastructure programs that do not distort prices between urban and rural. These programs should continue to be competitively neutral and continue to require all providers to contribute to universal service funding. Ideally, these programs should be in place before changes are made in the market structure. The existing rural support flows should be maintained. First, continue to maintain support flows to a lifeline rate for low-income users. Second, continue support flows to

universal service providers of last resort to build the infrastructure necessary to prevent telecommunications "have not's".

Universal service is not a natural result of a free enterprise competitive market. Because of this, any effort to implement competition in the rural areas must accommodate universal service goals. Conversely, any effort to implement competition in the urban areas must also accommodate universal service goals. Otherwise, loss of urban's support to universal service would further increase the rural penalty.

REGULATORY

BROADBAND CONSIDERATIONS

Much has been said about a ubiquitous public switched broadband digital network providing communication opportunities available to all people who want them, and at reasonable prices. Although transition from current technologies, services, and usage patterns to our vision of a telecommunications "superhighway" is expected to continue for several years, actions taken today will help ensure that the "superhighway" is not limited to the affluent. Now time to adopt a state-wide goal; a goal to support a network that is capable of carrying multiple channels of switched interactive multimedia communications (voice, data, and video).

The broadband network must be available universally on a common carriage basis, it must provide privacy and intellectual property protections, and have four physical characteristics in addition to its broad bandwidth: 1) digital switching, 2) interoperability, 3) security and reliability, and 4) useability.

Bandwidth refers to the range of signal frequencies that can be carried by a communications channel. It's capacity is characterized by measuring the number of digital signal bits per second that a conduit can carry. These are generally characterized as "narrowband" (less than 128 kilobits per second); "wideband" (up to about 45 million bits per second) and; "broadband" (over approximately 50 million bits per second). Today "broadband" is commonly used to mean the bandwidth necessary to carry one or more uncompressed television-quality video signals, although improvements in transmission and signal processing are constantly increasing the amount of information that can be sent through a given-size conduit. Seeking a broadband network now will be more cost effective. Although present facilities can carry some compressed video signals, public demand for more channels will rapidly require a broadband network to evolve.

An important physical characteristic the public broadband network must acquire is the capability of handling messages from a variety of equipment, at a variety of data rates and in a variety of formats. This capability is called "interoperability" whose value lies in the user's ability to connect with any other person without worrying about what kind of equipment, software, or network is being used. "Interoperability" would enhance "useability" as a characteristic that should be continually updated to meet the needs of the users by taking advantage of new

technologies and services. The goal is to make communication via voice, data, text, video, or multimedia as easy, effortless, and transparent to the user as possible while staying affordable.

Regulation will be essential to support competition and ensure that competition and universal service are compatible goals. A regulatory framework to support development of the ubiquitous public switched broadband digital network must:

- assure universal service for two-way interactive video services
- assure interoperability of public and private networks
- safeguard privacy and intellectual property
- encourage planning for security and reliability
- promote fair competition
- promote affordable services
- break out of the current regulatory approach that distinguishes among providers based on old technologies
- encourage innovation in services and technologies
- establish guidelines for levels of performance and reliability

Developing this regulatory framework will take more than tinkering with the existing regulatory methods. It will require new thinking based on current technological advances. The overall goal will be to develop the ubiquitous public switched broadband digital network as the new form of universal service. The benefits of this public shared network would be reflected in:

- reduced cost of delivering healthcare, education, and other government services
- improved quality of these services
- improved access to jobs and job training for all
- improved access to social and economic activities
- reduced pollution as people substitute the network for motor transport
- increased innovation in the kinds of information services that will be in great demand for world trade

RECOMMENDATIONS

A. Assure reliable and ubiquitous telecommunications access to all people upon demand at a universally affordable and equitable rate.

1. Define universal service at a level of access no less than that being provided today to the citizens of Louisiana.
 - a) It is strongly recommended that these service levels be evaluated and adopted as being universally beneficial to the public.
 - b) It is suggested that a State Telecommunication Modernization Plan (STMP) be adopted for the basic provision of services critical to both rural and urban areas in meeting social and economic needs. Criteria for the STMP should include considerations of the requirements prescribed by the Rural Electrification Administration (REA) when the REA's criteria for a state plan is finalized.

Adoption of these standards will begin to negate the rural penalty while allowing the development of home health care, telecommuting, telelearning, and other social services necessary to both urban and rural communities.

2. Establish the features of universal service that are obligatory and which should be available regardless of type of transmission medium or telecommunications provider used. The features of universal service being provided in Louisiana today are:
 - a) Ubiquitous single party Touch Tone availability.
 - b) Access to local exchange service.
 - c) Access to interexchange carriers.
 - d) Technical capability to send and receive local and long distance calls.
 - e) Interlata equal access.
 - f) 911 service where established by statute.

- g) A local calling area sufficiently large to encompass the users' community of interest.
 - h) Access to digital data transmission capabilities to support up to 150 Kbps as well as voice.
 - i) SS7 interconnection to the ubiquitous public broadband switched network.
 - j) Access to advanced services provided in digital or stored program control central offices.
 - k) Access to information and NXX services as available.
 - l) Local directory assistance.
 - m) Directory listing in residential and/or business directory.
 - n) Local Operator services.
 - o) Customer support service including billing.
 - p) Installation and set up of universal service.
3. Identify and recommend legislation/regulation to provide necessary economic incentives such as tax credits or subsidies to carriers who act as carrier of last resort.
 4. Identify the information networks that citizens must access to ensure that life long learning, telemedicine and telecommuting opportunities are available.
 5. Establish a customer need-based universal service program funded fairly by all providers of communications services.
 6. Review, reconfirm or change the universal service program and criteria at least once every two years.
- B. Focus on statewide economic development activities and social needs in urban and rural areas with special emphasis on rural areas.**
1. There are fifty-five parishes in Louisiana with low population density which are designated as rural. Due to higher serving costs and low revenue potential as compared to urban, these areas will be among the last to experience the deployment of new telecommunications infrastructure necessary to provide availability of ubiquitous universal service.

- a) Incentives should be established to entice telecommunications providers to speed their deployment schedules.
 - b) The existing rural support flows should be maintained.
- C. Foster and ensure the integration of modern technologies in state and local government to promote efficiencies.**
- 1. Ensure telecommunications and computer technologies play a central role in reinventing government so that government agencies can operate efficiently and serve constituents effectively.
 - 2. Remove barriers in agency funding to allow for shifting of resources to technology based services.
- D. Ensure the state's active participation in the National Information Infrastructure Initiative.**
- 1. Maximize investments through competition while broadening base of the contributors to universal access and providing open interconnections to the public switched network.
 - 2. Identify wireless and other telecommunications services that should be adopted by state agencies to improve productivity, efficiency and the quality of services provided to the citizenry.
- E. Assist in removing existing barriers to infrastructure construction, deployment, and implementation which limit development.**
- 1. Recommend legislation to make state lands and facilities available for construction of privately owned telecommunications infrastructure construction such as towers, etc..
 - 2. Recommend legislation that establishes "telecommunications empowerment" zones in each community to ensure continued construction of necessary infrastructure such as towers, antennas, equipment facilities, etc.
- F. Foster open network architecture of backbone support networks enabling non-discriminatory access.**
- 1. Ensure non-discriminatory access at reasonable rates for all carriers while continuing the state's recognized support initiatives of urban to rural